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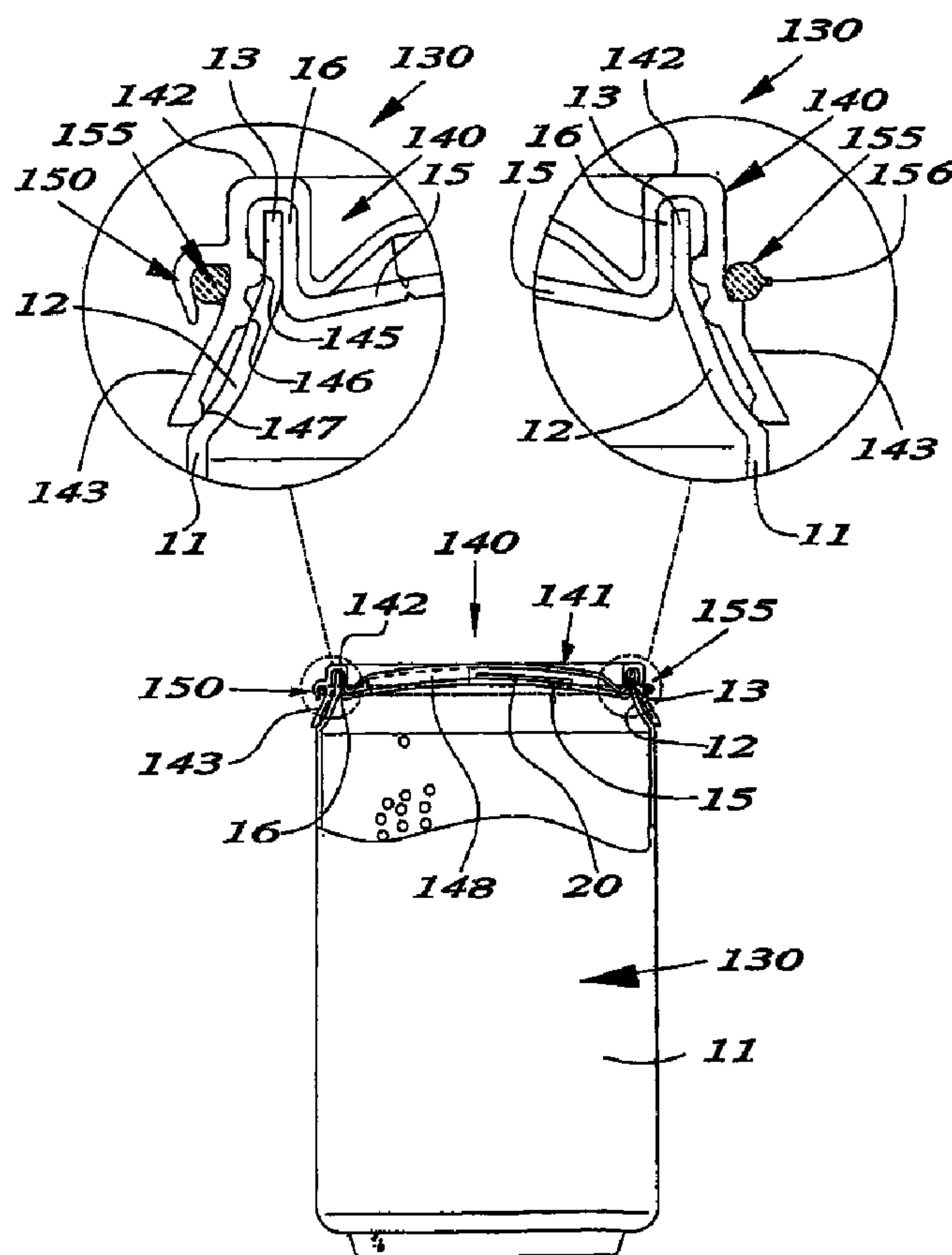
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(54) Title: LID FOR CANS CONTAINING DRINKS WITH REINFORCED SEAL



(57) Abrégé/Abstract:

Improved pressure-applied lid (140) on cans (130) for containing drinks, with three internal annular sealing rings, two matching respectively with the beginning and end of the lid's truncated-cone shaped mouth, and a third intermediate rib, surrounded at the

(57) **Abrégé(suite)/Abstract(continued):**

point where its truncated-cone shaped body passes onto the cylindrical top, by a plastic or metal ring (155) that exerts pressure in the intermediate area between the two upper annular ribs and passes inside a hook (150) made in one piece with the lid, it being thus possible, when the drinks is to be consumed, to use the fingers (160) to pull the ring (155) at a point diametrically opposite that of the hook (150) to facilitate detachment of the lid (140) from the can (130).

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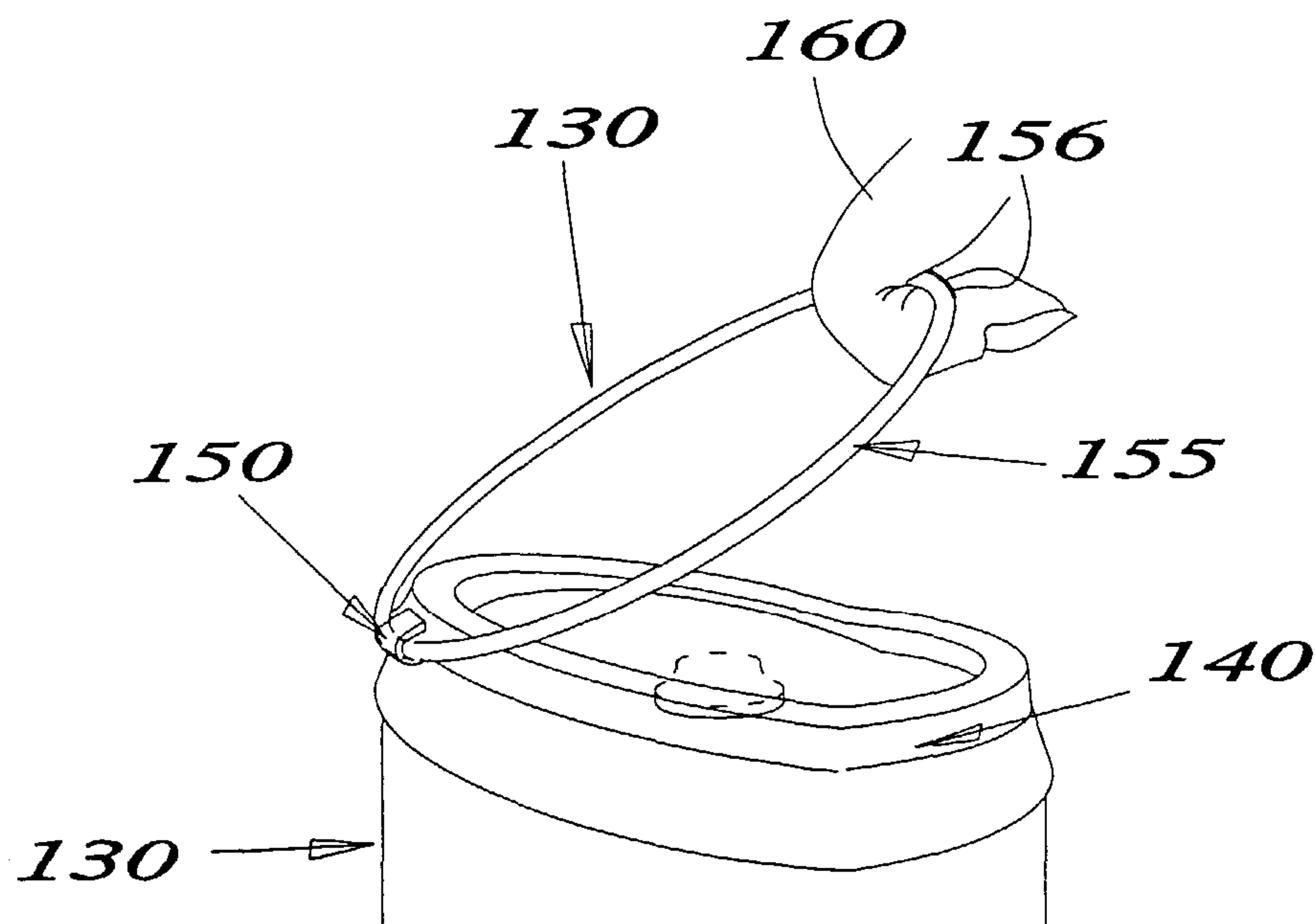
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(54) Title: LID FOR BEVERAGE CANS WITH REINFORCED SEAL



(57) Abstract: Improved pressure-applied lid (140) on cans (130) for containing drinks, with three internal annular sealing rings, two matching respectively with the beginning and end of the lid's truncated-cone shaped mouth, and a third intermediate rib, surrounded at the point where its truncated-cone shaped body passes onto the cylindrical top, by a plastic or metal ring (155) that exerts pressure in the intermediate area between the two upper annular ribs and passes inside a hook (150) made in one piece with the lid, it being thus possible, when the drinks is to be consumed, to use the fingers (160) to pull the ring (155) at a point diametrically opposite that of the hook (150) to facilitate detachment of the lid (140) from the can (130).



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LID FOR CANS CONTAINING DRINKS WITH REINFORCED SEAL

The invention concerns cans used for packaging drinks.

A wide use is made of cans containing drinks to which access is
5 obtained through a hole created by pulling off a strip from a part of the
surface prepared for the purpose, there being at the rear end of said
strip a ring and pin which, before being pulled up, lie flat on the upper
surface of the can.

Such cans present a serious drawback since their upper surfaces are
10 unprotected against dirt which may accumulate during transport and
storage.

In addition, once opened there is no real way of closing them again so
risking possible spillage or at any rate deterioration of the remaining
contents of the can.

15 In two previous patent applications, these were WO 01/62619 and WO
00/47486, described a pressure-applied lid for cans containing drinks,
of a shape and internal size corresponding to the shape and external
size of the top of the can.

On the lid were two internal annular seal rings respectively matching
20 substantially with the beginning and end of its truncated-cone shaped
body, so that the lid could be replaced after partial consumption of

the contents, ensuring protection of the remainder against dirt and maintaining intact its flavour and aroma.

Subject of this present invention is a lid which is still more efficient than the earlier ones. Now, between the two internal annular seal
5 ribs, respectively matching with the beginning and end of the truncated-cone shaped mouth of the can, there is a third rib set at a short distance from the upper rib.

Around said lid, at the point of passage from its truncated-cone shaped body to the cylindrical top, is a sealing ring of plastic, metal
10 or any other material resistant to pulling.

The internal diameter of said sealing ring is slightly less than the external diameter of the lid at the position where it fits on, so as to create pressure substantially on the area between the two upper annular ribs on the inner wall of the lid.

15 At the position of this ring the lid presents a hook whose internal width and shape substantially correspond to the shape and thickness of the ring, having a lower opening narrower than said thickness so that the ring can be pushed in with a slight effort.

In this way, when requiring to drink the contents, a finger can be
20 used in an area diametrically opposite to that of the hook, to raise the ring, rotating it round the hinge formed by said hook, and so create sufficient pull to detach the lid completely from the can.

The hook preferably forms an integral part of the lid.

An outward-facing tab is advantageously fixed to the ring in order to
25 facilitate movement of the finger when raising the lid.

The invention offers evident advantages.

The presence of a third intermediate sealing rib, between the two ribs on the inner wall of the lid, together with centripetal action of the external ring with slight pressure by the wall of the lid between the
30 two internal upper ribs, ensure a much stronger seal to counteract the force of gas formed in some drinks such as beer and others.

The possibility of raising the ring on the lid in a position opposite that of the hinge created by the hook into which said ring fits, to allow the fingers to grip it, facilitates detachment of the lid as the fingers can thereby exert a strong pull on the ring.

- 5 The possibility of replacing the lid on the can to protect the remaining contents will be much appreciated by consumers, making this form of drink packaging popular and easy to sell.

Summary of the Invention

- 10 In accordance with an aspect of the present invention, there is provided a Lid to be applied by pressure to a top of a can for beverages, the can having a truncated cone-shaped mouth having a top and a base; and a cylindrical rim, the can being openable by tearing off a tongue on the can using fingers; the lid comprising:
- 15 internal wall having a first and a second annular sealing rib that match with the top and the base, respectively of said truncated cone-shaped mouth; a third annular sealing rib between the first and second sealing ribs and proximal to the first rib; a sealing ring; a hook coupled to the lid for fitting the sealing ring around the lid, wherein the internal
- 20 diameter of the sealing ring is less than the external diameter of the lid so as to create pressure in an area intermediate the first and third ribs on the internal wall.

- Characteristics and purposes of the invention will be made still clearer by the following examples of its execution illustrated by dia-
- 25 grammatically drawn figures.

- Fig. 1: Can for drinks with removable protective lid provided with a peripheral ring for reacting to internal pressure and for pulling on the lid when opening the can, said ring being inside a hook on the lid and having on it a tab diametrically opposite the hook, perspective
- 30 view with enlarged detail.

Fig. 2 A partial longitudinal section of the can, with enlarged detail to show the hook and tab.

Fig. 3 The can when the ring is being lifted for pulling off the lid, perspective view.

3a

Fig. 4 The can with lid half open, perspective view.

As seen in Figure 1, the can 130 with cylindrical body 11, truncated-cone shaped mouth 12 and cylindrical rim 13, presents the removable lid 140.

- 5 Said lid has a convex base 141 which, next to its raised edge 142 in the shape of a downward-facing U, forms a truncated-cone shaped

body 143 of a shape and size substantially the same as those of the head 15 with U-shaped edge 16 of the can 130.

Three annular sealing ribs are made on the inner wall of the lid's truncated-cone shaped body, one rib 147 at the end of said body,
5 another 145 at the point where said body becomes the upper cylindrical top, and an intermediate rib 146 at a short distance from rib 145.

Outside the lid 140, at the point where the truncated-cone shaped body becomes the cylindrical top, a ring 155 is placed inside the
10 hook 150 in one piece with said lid and inside it.

As the figures show, said ring is fixed by causing it to penetrate inside the hook 150 by slight pressure. at its opening, and presents a gripping tab 156 on the side opposite said hook.

It will be seen from Figure 2 and enlarged details that the ring 155
15 creates pressure on the truncated-cone shaped wall 142 of the lid exactly in the space between the annular sealing ribs 145 and 146.

This pressure effectively opposes the force set up inside the can when the drink becomes partially gaseous.

To detach the lid from the top of the can, a finger 160 is used on the
20 tongue 156 as seen in Figure 3.

Having raised the ring 155 and made it rotate around the hinge formed by the hook 150, the finger 160 is able to exert pulling force sufficient to detach the lid from the can, as shown in Figure 4.

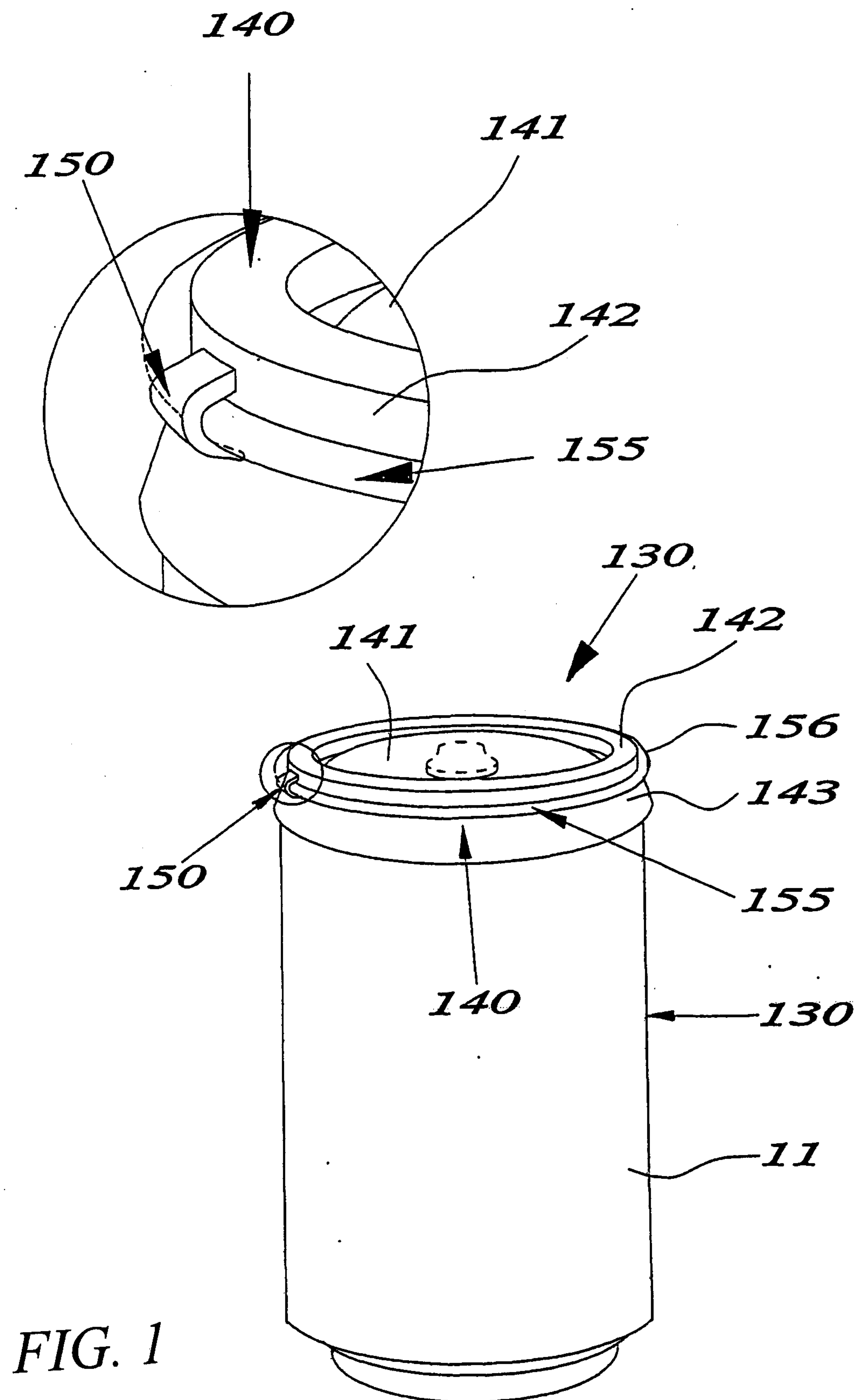
When some of the contents has been drunk, it is obviously possible
25 to use the stopper 148 on the base of the lid to penetrate inside the hole created the first time the can was opened, by pressing on the tongue 20, as in the usual types of cans, and so close the can hermetically, replacing the lid and ring in their initial position and ensuring proper conservation of the remaining contents.

What is claimed is:

1. Lid to be applied by pressure to a top of a can for beverages, the can comprising a truncated cone-shaped mouth having a top and a base; and a cylindrical rim, the can being openable by tearing off a tongue on the can using fingers; the lid comprising:
 - an internal wall having a first and a second annular sealing rib that match with the top and the base, respectively of said truncated cone-shaped mouth;
 - a third annular sealing rib between the first and second sealing ribs and proximal to the first rib;
 - a sealing ring; and
 - a hook coupled to the lid for fitting the sealing ring around the lid, wherein the internal diameter of the sealing ring is less than the external diameter of the lid so as to create pressure in an area intermediate the first and third ribs on the internal wall.
2. The lid of claim 1, wherein the lid further comprises a truncated cone-shaped body and a cylindrical top.
3. The lid of claim 2, wherein the sealing ring is fitted on an area between the truncated cone-shaped body and the cylindrical top.
4. The lid as claimed in any one of claims 1 to 3, wherein the hook has an internal shape and width that corresponds substantially to the shape and thickness of the ring, and the lid having a lower opening narrower than said thickness; wherein when the beverage is to be consumed, pressure by the fingers on the ring in an area diametrically opposite to that of the hook, makes it possible to lift said ring, rotate it around the hinge formed by said hook, and create a pulling force sufficient to detach the can.
5. The lid as claimed in any one of claims 1 to 4, wherein the hook is made in one piece with the lid.
6. The lid as claimed in any one of claims 1 to 5, wherein the ring has fixed to it an outward-facing tab that assists action by the fingers when lifting the lid.

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7. The lid as claimed in any one of claims 1 to 6, wherein the ring is made of plastic.
8. The lid as claimed in any one of claims 1 to 6, wherein the ring is made of metal.

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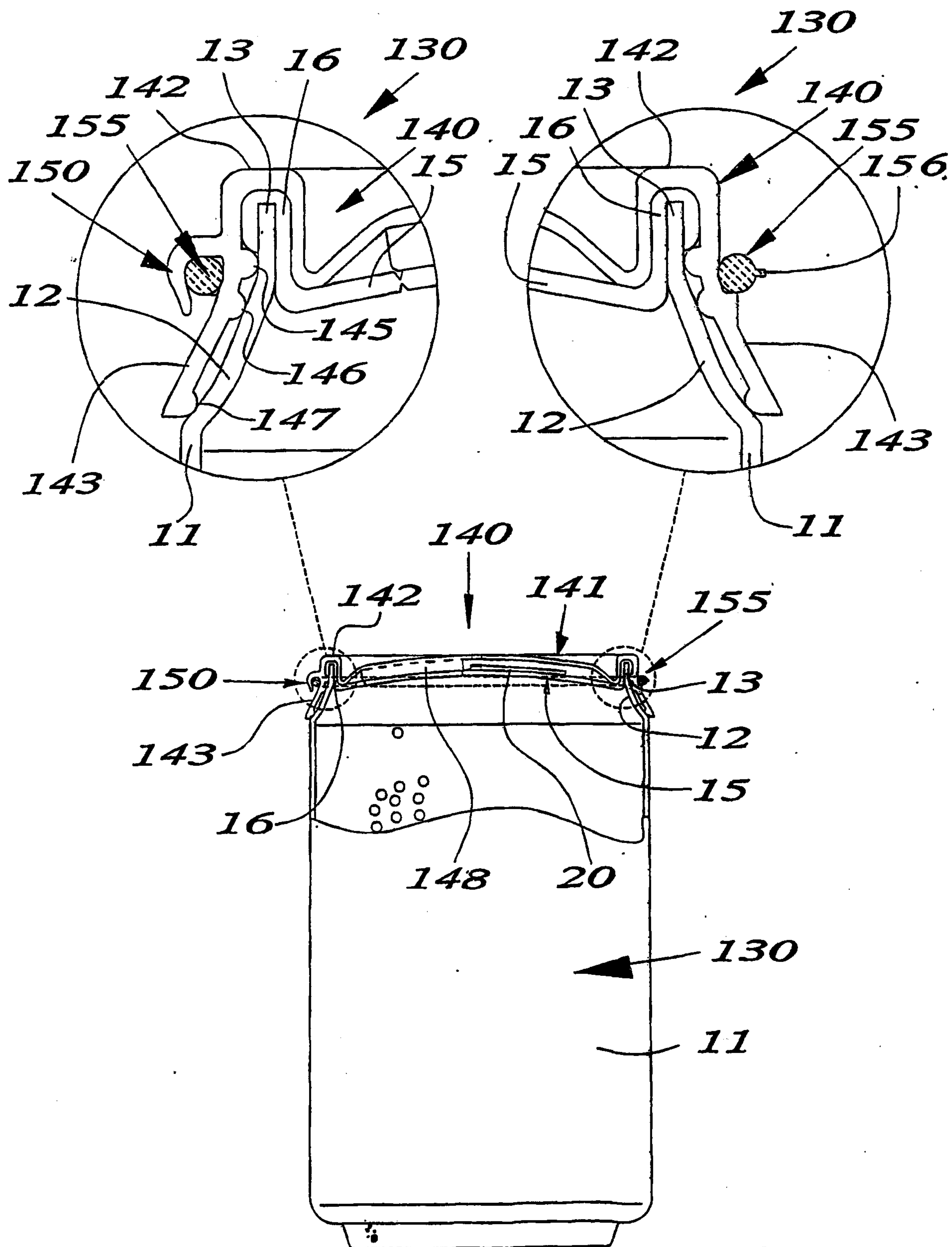


FIG. 2

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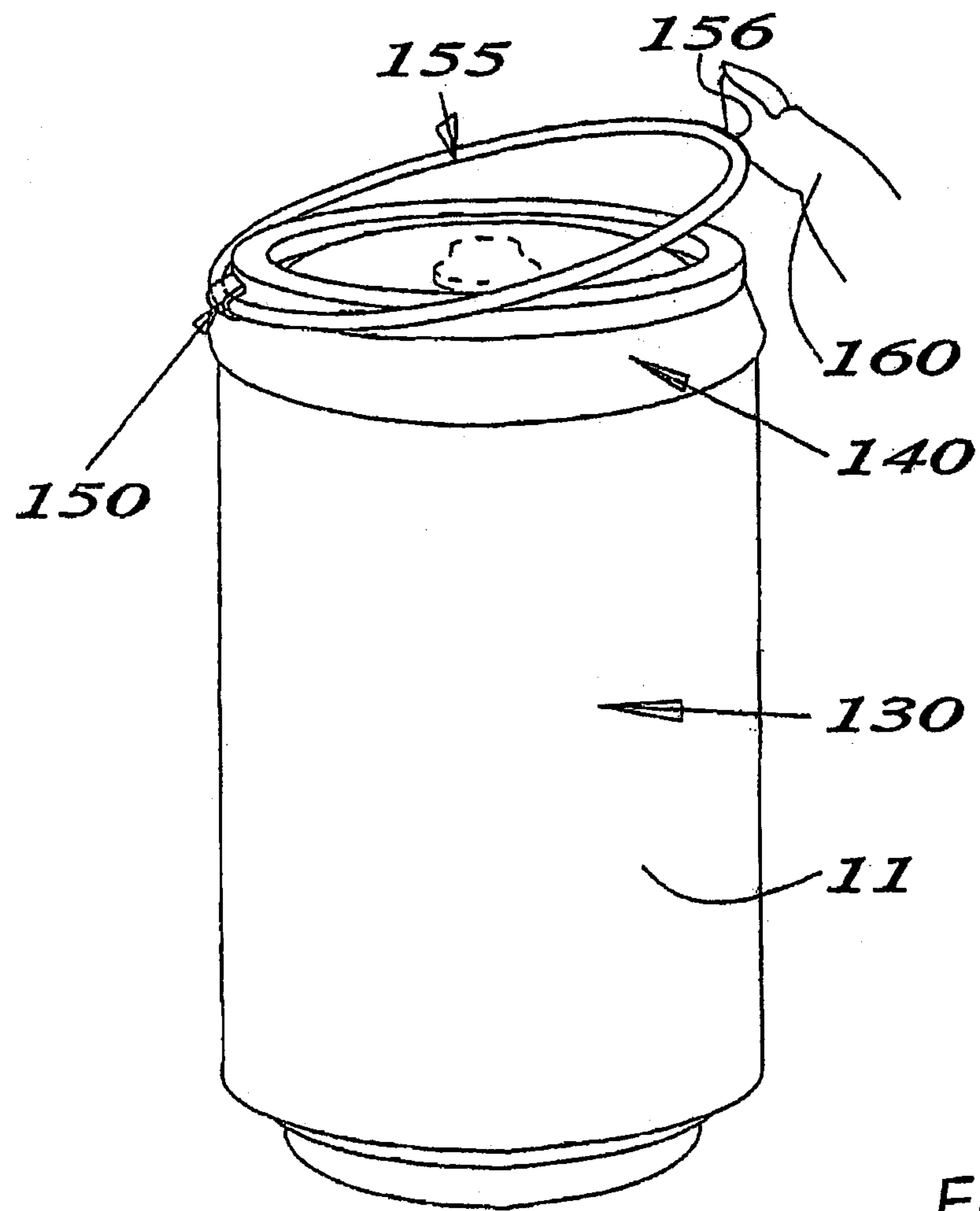


FIG. 3

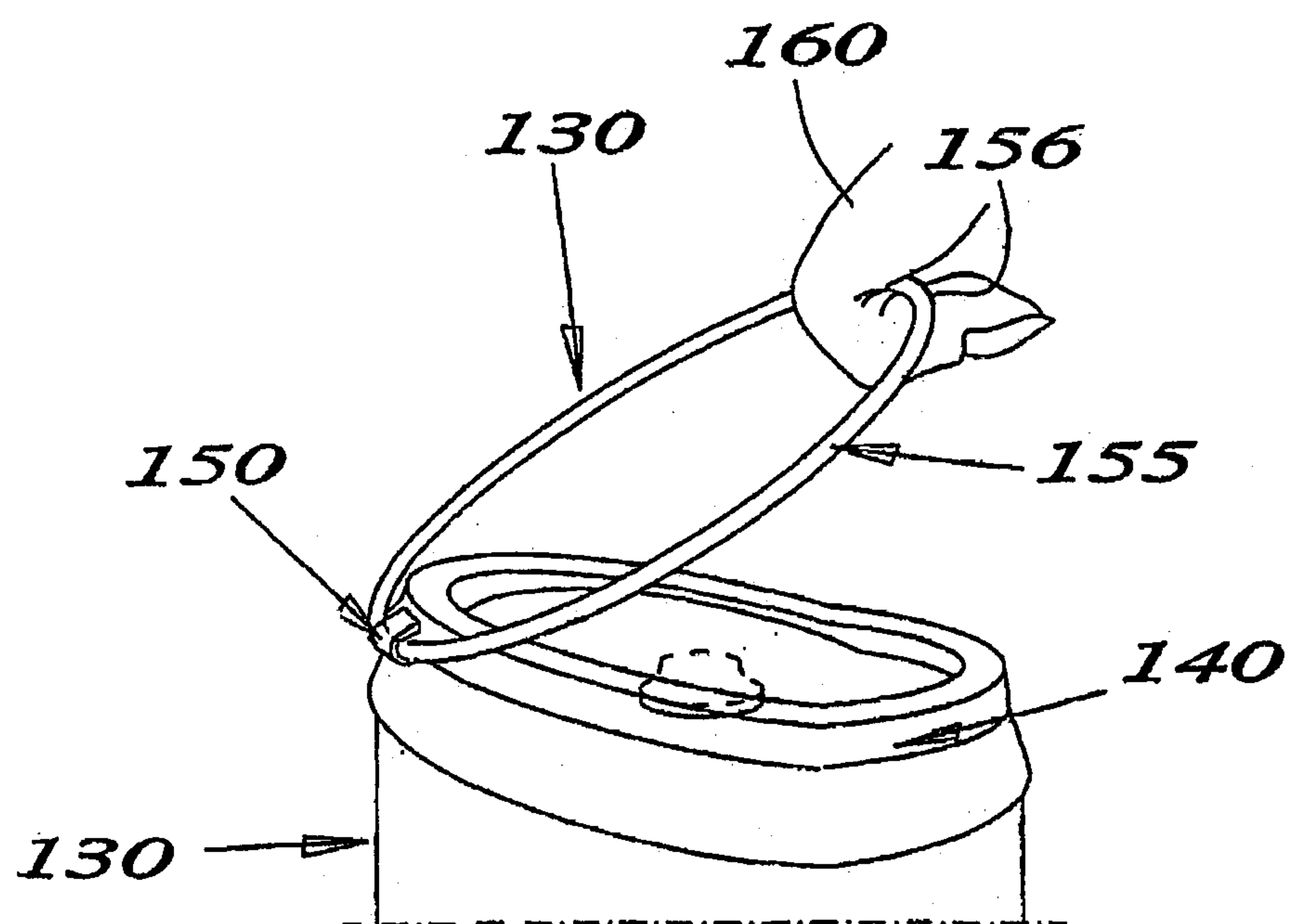


FIG. 4

